



DECLARATION UNDER 37 CFR § 1.132

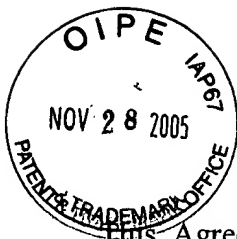
I, Phillip W. Rogaway, declare the following:

1. That I am the inventor of the subject matter disclosed and/or claimed in U.S. Patent Application Serial No. 09/918,615.
2. That the subject matter of U.S. Patent Application Serial No. 09/918,615 is commercially successful over the prior art systems of Gligor (USPub 2001/0033656), Jutla (*Encryption Modes with Almost Free Message Integrity*), and Menezes (*Handbook of Applied Cryptography*, 1977).
3. That the attached representative licensing agreement to Atheros Communications Inc., 529 Almanor Avenue, Sunnyvale, CA 94085, dated October 18, 2002, supports this commercial success.
4. That the attached representative licensing agreement to Storage Technology Corporation, One StorageTek Drive, Louisville, Colorado 80028-0001, dated January 27, 2005, supports this commercial success.
5. That the attached representative licensing agreement to Cisco Systems Inc., 170 West Tasman Drive, San Jose, CA 95134, dated October 31, 2001, supports this commercial success. Note that the signature page is not readily available.

I declare that all statements made herein of my own knowledge are true, that all statements made on information and belief are believed to be true, and further that these statements were made with the knowledge that willful false statement and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Executed on this 22nd day of November, 2005 at Davis, California.

By: Phillip W. Rogaway
Phillip W. Rogaway

**LICENSE AGREEMENT**

This Agreement is made this 18th day of October, 2002, ("Effective Date") by and between Phillip W. Rogaway, Ph.D. having a principal place of residence at 1212 Purdue Drive, Davis, California, (hereinafter referred to as "Licensor") and Atheros Communications, Inc., having a place of business at 529 Almanor Avenue, Sunnyvale, CA 94085 (hereinafter referred to as "Licensee").

WHEREAS, Licensor has invented certain inventions relating generally to cryptography, and, more specifically, to authenticated encryption and an authenticated-encryption scheme known as "OCB";

WHEREAS, Licensor has filed with the United States Patent Office Provisional Patent Applications as herein identified that disclose such inventions;

WHEREAS, Licensor has filed with the United States Patent Office certain utility patent application(s) as herein identified that disclose such inventions;

WHEREAS, the National Institute of Standards and Technology (NIST) may update encryption modes, and OCB has been proposed to NIST by the Licensor as a new block-cipher mode of operation;

WHEREAS the IEEE 802.11 Working Group for Wireless Local Area Networks is planning to use OCB within a standard, and other standardization bodies may also standardize on OCB or a mode related to it;

WHEREAS, Licensor has the right to provide a license under certain United States Patent(s) as herein identified;

WHEREAS, Licensor has stated that Licensor will license the United States Patent(s) under fair, reasonable, and non-discriminatory terms and conditions; and

WHEREAS, Licensee desires to obtain, and Licensor is willing to grant Licensee, a non-exclusive license as hereafter defined and under the terms and conditions herein specified.

NOW, THEREFORE, in consideration of the premises and mutual agreements herein contained Licensor and Licensee AGREE AS FOLLOWS:

1. DEFINITIONS

- 1.1 "Subsidiary" shall mean any corporation, company, or other entity of which Licensee now or hereafter owns or controls, directly or indirectly, more than fifty percent (50%) of the outstanding shares of stock entitled to vote for the election of directors. Any corporation, company, or other entity which would at any time

be a Subsidiary of Licensee by reason of the foregoing shall be considered a Subsidiary only for so long as the percentage of ownership or control, directly or indirectly, by Licensee meets the conditions set forth above.

- 1.2 "Acquired Companies" shall mean any companies acquired by Licensee, which at the time of acquisition are either merged into or become a Subsidiary of Licensee.
- 1.3 "Provisional Patent Applications" means United States Provisional Patent Application Number 60/232,326, entitled "Block Cipher Mode of Operation", and Application Number 60/240,471, entitled "Parallelizable Encryption", and Application Number 60/267,640, entitled "An Authenticated Encryption Scheme".
- 1.4 "Authenticated Encryption" shall mean any cryptographic technique to compute a ciphertext from a message and a key, where said ciphertext is designed to protect both the privacy and the authenticity (also called the integrity) of the message.
- 1.5 "Patents" shall mean any patent that issues from United States Application No. 09/918,615 entitled "Method and Apparatus for Facilitating Efficient Authenticated Encryption," filed on July 30, 2001 and any patent, foreign or domestic, that claims priority to any or all of the Provisional Patent Applications and claims a method or apparatus for Authenticated Encryption, any utility, divisional, continuation, continuation-in-part, reexamination, reissue, or foreign counterpart patents that may issue with respect to any of the aforesaid patent(s) and that is filed at any time, and any patent, foreign or domestic, filed up to two years from the Effective Date on which Licensor is a named inventor and that relates to Authenticated Encryption.
- 1.6 "Product" shall mean a device that includes (a) a IEEE 802.11 compliant wireless transmitter, (b) a IEEE 802.11 compliant wireless receiver, or (c) a semiconductor processor, such as a packet-processor, for installation within a IEEE 802.11 compliant wireless transmitter or a IEEE 802.11 compliant wireless receiver. "Product" shall not include a computer program, software toolkit, or software library unless the computer program is licensed for use only with (a) a IEEE 802.11 compliant wireless transmitter that was manufactured by or for Licensee, (b) a IEEE 802.11 compliant wireless receiver that was manufactured by or for Licensee, or (c) a semiconductor processor, such as a packet-processor, that was manufactured by or for Licensee, provided the processor is suitable for installation within a IEEE 802.11 compliant wireless transmitter or a IEEE 802.11 compliant wireless receiver that was sold by Licensee.

2. LICENSE GRANT

2.1 Licensor grants to Licensee and Subsidiaries of Licensee a worldwide, royalty-free, non-exclusive, non-transferable (except as allowed by Section 5.2), fully paid-up license under Patents:

- (a) to test, make (including the right to use any apparatus and practice any method in making), use, import, sell, offer to sell, lease or otherwise dispose of any Product that, without the license granted herein, would infringe any claim of Patents;
- (b) to have Product made by another manufacturer for the use, importation, sale, offer for sale, lease, or other disposal by Licensee or Licensee's Subsidiaries, but only if (i) such Products are sold by Licensee, Licensee's sales agent or Licensee's Subsidiaries under the trademarks, trade names or other commercial indicia of Licensee or Licensee's Subsidiaries, and (ii) said Products are made by the other manufacturer using manufacturing drawings and/or specifications (a) originated by Licensee or Licensee's Subsidiaries or (b) originated by any third party specifically for Licensee and/or Licensee's Subsidiaries

Except as set forth in Section 5.3 below or inherent in uses permitted by Section 2.1, neither Licensee nor Subsidiaries of Licensee shall have any right to sublicense the rights granted in Paragraph 2.1.

- 2.2 Licensor grants Licensee a full release for any infringement of Patents occurring before Effective Date.
- 2.3 Licensor grants Subsidiaries and Acquired Companies a full release for any infringement of Patents occurring before such entity was a Subsidiary or an Acquired Company.
- 2.4 Except as stated in Paragraphs 2.1 and 5.2, neither Licensee nor Subsidiaries of Licensee shall assign or transfer any of its rights granted hereunder without the prior written consent of Licensor, which may not be unreasonably delayed or withheld.
- 2.5 No right or license is granted hereby under any patent or patent application except as specifically and expressly provided herein.
- 2.6 If Licensee is required to submit to a government entity information within the possession of the Licensor relating to Patents for purposes of Licensee obtaining an export license, Licensor will cooperate with Licensee to provide such information.

3. PAYMENT

- 3.1 Licensee agrees to pay Licensors the sum of forty thousand dollars (\$40,000) within five (5) days of the Effective Date.
- 3.2 All payments called for under this Agreement shall be in United States currency, without deductions of taxes of any kind, payable by wire transfer to

Phillip Rogaway
The Golden 1 Credit Union
6507 Fourth Avenue
Sacramento, California 95817 USA
Account # 57204570909
ABA/Routing # 321175261

or to any other account that the Licensors may request in writing, or by a check to Licensors, if the Licensors indicates in writing that this is acceptable.

4. TERM AND TERMINATION

- 4.1 All grants, obligations and provisions herein shall continue in full force and effect, unless sooner terminated as hereinafter provided, until the expiration date of the last to expire patent of Patents.
- 4.2 If, for any reason, one or more of the payments defined in Paragraph 3.1 or this paragraph are not made by the scheduled time, then Licensors shall have the right to terminate this Agreement and/or any and all rights and licenses granted to Licensee and Subsidiaries of Licensee by this Agreement within fifteen (15) days of written notice to Licensee if Licensee fails to correct within five (5) days of such written notice. If any payment defined in Paragraph 3.1 is not made within fifteen (15) days of the scheduled time, then the unpaid balance of the sum specified in Paragraph 3.1 will immediately become due in full.
- 4.3 Licensee agrees that should it, during the term of the Agreement, contest the validity of any of Patents by filing or causing others to file any legal action or any proceeding for reexamination, then Licensors shall have the right to immediately terminate this Agreement and/or any and all rights and licenses granted to Licensee and Subsidiaries of Licensee by this Agreement, to the extent that the exercise of such right to terminate is permitted under the law of the United States.

5. ASSIGNMENTS

- 5.1 This Agreement may, at any time, upon written notice and without Licensee's consent, be assigned by Licensor without such assignment operating to terminate, impair, or in any way change any obligations or rights which Licensor would have had, or any of the obligations or rights which Licensee would have had, if such assignment had not occurred. From, and after, the making of any such assignment by Licensor, the assignee shall be substituted for Licensor as a party hereto and Licensor shall no longer be bound hereby.
- 5.2 Assignment: Licensee may not assign this Agreement or any of its rights or obligations under this Agreement without the prior written consent of Licensor, which will not be unreasonably withheld or delayed; except that:
- (a) Licensee may assign all, but not part, of this Agreement to any subsidiary or affiliate, to its successor in a merger or other similar corporate reorganization in which it is not the surviving entity, or to the purchaser of substantially all of its assets to which this Agreement relates, provided such assignee has total annual revenue less than fifty million dollars (\$50,000,000) and provided such assignee agrees in writing to be bound by this Agreement. From, and after, the making of any such assignment by Licensee, the assignee shall be substituted for Licensee as a party hereto and Licensee shall no longer be bound hereby.
 - (b) Licensee may assign all, but not part, of this Agreement to any subsidiary or affiliate, to its successor in a merger or other similar corporate reorganization in which it is not the surviving entity, or to the purchaser of substantially all of its assets to which this Agreement relates, provided Licensee or such assignee pays Licensor one hundred thousand dollars (\$100,000) (or a lesser amount agreed to by Licensor) within thirty (30) days of such assignment and provided assignee agrees in writing to be bound by this Agreement. From, and after, the making of any such assignment by Licensee, the assignee shall be substituted for Licensee as a party hereto and Licensee shall no longer be bound hereby.
- 5.3 Sublicense: Licensee shall have the right to grant a worldwide, royalty-free, non-exclusive, non-transferable (except as allowed by Section 5.2), fully paid-up sublicense to a third party, provided that Licensee or such party pays Licensor one hundred thousand dollars (\$100,000) (or a lesser amount agreed to by Licensor) within thirty (30) days of the date of each granted sublicense, under Patents:
- (a) to test, make (including the right to use any apparatus and practice any method in making), use, import, sell, offer to sell, lease or otherwise dispose of any Product that is designed at least in part by Licensee and

that, without the license granted herein, would infringe any claim of Patents;

- (b) to have Product that is designed at least in part by Licensee made by another manufacturer for the use, importation, sale, offer for sale, lease, or other disposal by such party or party's Subsidiaries, but only if (i) such Products are sold by such party, party's sales agent or party's Subsidiaries under the trademarks, trade names or other commercial indicia of such party or party's Subsidiaries, and (ii) said Products are made using manufacturing drawings and/or specifications (a) originated by such party or party's Subsidiaries or (b) originated specifically for such party and/or party's Subsidiaries.

6. REPRESENTATIONS AND WARRANTIES

- 6.1 Licensors warrants that (a) he does not own any patents or applications for patent, other than Patents, which are necessary to practice the Authenticated Encryption inventions disclosed in the Provisional Patent Applications; (b) he has the entire right, title and interest in and to Patents and the Provisional Patent Applications; (c) he has the right to enter into this Agreement; and (d) there are no liens, conveyances, mortgages, assignments, encumbrances or other agreements to which Licensors is a party or by which he is bound, which would prevent or impair the full exercise of all rights granted to Licensee by Licensors pursuant to the terms and conditions of this Agreement.
- 6.2 Licensors makes no representation that any software or hardware that implements any invention disclosed in Patents or Provisional Patent Applications will be merchantable or fit for any particular purpose. In no event shall either party be liable for any direct, indirect, incidental, special, exemplary, or consequential damages (including, but not limited to, procurement of substitute goods or services; loss of use, data, or profits; or business interruption) related to such software or hardware, however caused and under any theory of liability, whether in contract, strict liability, or tort (including negligence), even if advised of the possibility of such damage.
- 6.3 Licensors will not grant a license of scope similar to or identical to the license of Paragraph 2.1 to another entity for a payment less than forty thousand dollars (\$40,000). The licensing restriction of this Paragraph only applies to Licensors and does not apply to any assignee of Patents. Thus, if Licensors assigns Patents to a third party, then such third party will be free to license Patents without restriction.
- 6.4 Each party further represents and warrants that in executing this Agreement, it does not rely on any promises, inducements, or representations made by any party or third party with respect to this Agreement or any other business dealings with any party or third party, now or in the future.

6.5 Each party represents and warrants that it is not presently the subject of a voluntary or involuntary petition in bankruptcy or the equivalent thereof, does not presently contemplate filing any such voluntary petition, and does not presently have reason to believe that such an involuntary petition will be filed against it.

6.6 Other than the express warranties of this Article, there are no other warranties, express or implied.

7. GENERAL PROVISIONS

7.1 Notices. All notices to, demands, consents or communications which any party may desire or may be required to give to the other must be in writing, and if sent within the United States must be sent by registered or certified mail or sent by facsimile transmission, and if sent outside the United States must be delivered prepaid to a reputable international delivery service or courier or sent by facsimile transmission, in either case addressed to such address as shall have been designated by notice from the addressee for addressing of notices to it, or if no such designation shall have been made, then to the address of the party appearing above. Receipt shall be presumed on the date of a confirmed transmission as to facsimile transmission and otherwise on the earlier of actual receipt or on the third day after sending as to notices given within the United States and on the fifth day after sending as to notices given outside the United States. Notice shall be sent to Licensee to: Atheros Communications, Inc., Attention: Legal Department, 529 Almanor Avenue, Sunnyvale, CA 94085, Fax No. (408) 773-9909. Notice shall be sent to Licensor to: Phillip W. Rogaway, Ph.D at (530) 752 4767 and +66 53 943433, and via email (rogaway@cs.ucdavis.edu), with copy to Mr. Hoyt A. Fleming, Park, Vaughan and Fleming, LLP at (208) 342-5363.

7.2 Waiver. No failure or delay to act upon any default or to exercise any right, power or remedy hereunder will operate as a waiver of any such default, right, power or remedy. A waiver of any default hereunder or of any of the terms and conditions of this Agreement must be in a signed writing and shall not be deemed to be a continuing waiver or a waiver of any other default or of any other term or condition, but shall apply solely to the instance to which such waiver is directed.

7.3 Entire Agreement and Amendment. This Agreement constitutes the entire understanding of the parties with respect to its subject matter and supersedes all prior and contemporaneous oral or written negotiations, agreements and understandings. This Agreement may not be modified or amended except in writing duly signed by authorized persons on behalf of the parties hereto.

- 7.4 Severability. If any provision of this Agreement is or becomes or is deemed invalid, illegal or unenforceable under the applicable laws or regulations of the United States, the State of California or any other applicable jurisdiction, such provision will be deemed amended to the extent necessary to conform to applicable laws or regulations or, if it cannot be so amended without materially altering the intention of the parties, it will be stricken, and the remainder of this Agreement will remain in full force and effect.
- 7.5 Governing Law. The validity, construction, interpretation and performance of this Agreement, and any disputes or legal actions arising thereunder or therefrom, shall be governed by the laws and regulations of the United States of America and the State of California, as applied to contracts made and to be performed entirely within the State of California.
- 7.6 Jurisdiction and Venue. In any dispute arising under this Agreement, each party will personally submit itself to the jurisdiction of a court of lawful jurisdiction in the State of California (Northern District of California if Federal Court; Santa Clara County if State Court) if and when sued by the other party in such court; that Licensee will accept, as lawful and sufficient, service of process by certified or registered mail directed to the company President, by title or name, at the regular place of business for the Licensee; and that Licensee will waive any objection it may have to personal or subject matter jurisdiction or venue; that Licenser will accept, as lawful and sufficient, service of process by certified or registered mail directed to him at his principal residence provided a copy of such service of process is sent to Licenser by email (rogaway@cs.ucdavis.edu) and sent by certified or registered mail to Mr. Hoyt A. Fleming, Park Vaughan and Fleming LLP, 4134 W. Quail Ridge Drive, Boise ID 83703; and that Licenser will waive any objection it may have to personal or subject matter jurisdiction or venue.
- 7.7 Relationship of the Parties. This Agreement does not constitute that either party hereto is an agent of the other party for any purpose whatsoever, nor does either party hereto have the right or authority to assume, create or incur any liability of any kind, express or implied, against or in the name or on behalf of the other party.
- 7.8 Publicity. Licensee may publicly disclose that it is licensed under Patents. Licenser may publicly disclose that it has licensed Patents to Licensee.
- 7.9 Confidentiality. Subject to Paragraph 7.8, each party agrees not to disclose any terms of the Agreement to any third party (other than its Subsidiaries) without the prior written consent of the other party. This obligation is subject to the following exceptions: (a) disclosure is permissible if required by government or court order, provided the party required to disclose first gives the other prior written notice to enable it to seek a protective order; (b) disclosure is permissible if otherwise required by law; (c) disclosure is permissible if required to enforce

rights under this Agreement; (d) each party may use similar terms and conditions in other agreements; (e) each party may disclose this Agreement or its contents to the extent reasonably necessary, on a confidential basis, to potential or actual assignees of Patents, to third parties desiring a right to sublicense Patents that is broader than the Sublicense right in Section 2.1, to its accountants, attorneys, financial advisors, its present or future providers of venture capital and/or potential investors in or acquirers of such party; and; and (f) Licensee may advise its actual or potential customers and/or suppliers that it is licensed under Patents and the scope of the license.

7.10 Choice of Language. The English language form of this Agreement shall control and determine its interpretation.

7.12 Headings. Headings in this Agreement are for the purpose of convenience only, and are not intended to be used in its construction or interpretation.

7.13 Counterparts. This Agreement may be executed in any number of counterparts with the same effect as if both parties hereto had signed the same document. All counterparts will be construed together and will constitute one document.

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be executed by their respective duly authorized officers on the date(s) shown below, to be effective as of the Effective Date.

LICENSOR

Date: October 31, 2002

By: Phillip W. Rogaway

Printed Name: Phillip W. Rogaway, Ph.D.

LICENSEE

Date: October 17, 2002

By: David Torre

Printed Name: David Torre

Title: V.P. Administration and Controller



PROPRIETARY MATERIAL
In re Application of Phillip W. Rogaway
Application No. 09/918,615
Filed: 30 July 2001
Examiner: Kevin R. Schubert, Art Unit 2137

LICENSE AGREEMENT

This Agreement is made this 21 day of January, 2005, ("Effective Date") by and between Phillip W. Rogaway, Ph.D. having a principal place of residence at 1212 Purdue Drive, Davis, California, (hereinafter referred to as "Licensor") and Storage Technology Corporation, having a place of business at One StorageTek Drive Louisville, Colorado 80028-0001 (hereinafter referred to as "Licensee").

WHEREAS, Licensor has invented certain inventions relating generally to cryptography, and, more specifically, to authenticated encryption and an authenticated-encryption scheme known as "OCB;"

WHEREAS, Licensor has invented certain inventions relating generally to cryptography, and, more specifically, to message authentication and a message authentication code known as "PMAC;"

WHEREAS, Licensor has filed with the United States Patent Office Provisional Patent Applications as herein identified that disclose such inventions;

WHEREAS, Licensor has filed with the United States Patent Office certain utility patent application(s) as herein identified that disclose such inventions;

WHEREAS, Licensor has the right to provide a license under certain United States Patent(s) as herein identified;

WHEREAS, Licensor has stated that Licensor will license the United States Patent(s) under fair, reasonable, and non-discriminatory terms and conditions; and

WHEREAS, Licensee desires to obtain, and Licensor is willing to grant Licensee, a non-exclusive license as hereafter defined and under the terms and conditions herein specified.

NOW, THEREFORE, in consideration of the premises and mutual agreements herein contained Licensor and Licensee AGREE AS FOLLOWS:

1. DEFINITIONS

- 1.1 "Subsidiary" shall mean any corporation, company, or other entity of which Licensee now or hereafter owns or controls, directly or indirectly, more than fifty percent (50%) of the outstanding shares of stock entitled to vote for the election of directors. Any corporation, company, or other entity which would at any time be a Subsidiary of Licensee by reason of the foregoing shall be considered a Subsidiary only for so long as the percentage of ownership or control, directly or indirectly, by Licensee meets the conditions set forth above.
- 1.2 "Acquired Companies" shall mean any companies acquired by Licensee, which at the time of acquisition are either merged into or become a Subsidiary of Licensee.
- 1.3 "Provisional Patent Applications" means United States Provisional Patent Application Number 60/232,326, entitled "Block Cipher Mode of Operation," and Application Number 60/240,471, entitled "Parallelizable Encryption," and Application Number 60/267,640, entitled "An Authenticated Encryption Scheme."
- 1.4 "Authenticated Encryption" shall mean any cryptographic technique to compute a ciphertext from a message and a key, where said ciphertext is designed to protect both the privacy and the authenticity (also called the integrity) of the message.
- 1.5 "Message Authentication" shall mean any cryptographic technique to compute a tag (also known as a MAC) from a message and a key, where said tag is designed to protect the authenticity (also known as the integrity) of the message.
- 1.6 "Patents" shall mean United States Application No. 09/918,615 entitled "Method and Apparatus for Facilitating Efficient Authenticated Encryption," filed on July 30, 2001 and United States Application No. 09/948,084 entitled "Method and Apparatus for Realizing a Parallelizable Variable-Input-Length Pseudorandom Function, filed on September 5, 2001, and Provisional Patent Applications (all hereinafter referred to as Patent Applications) any patent application, foreign or domestic, that claims priority to any or all of the Patent Applications and claims a method or apparatus for Authenticated Encryption, and any utility, divisional, continuation, continuation-in-part, reexamination, reissue, or foreign counterpart patents that may issue with respect to any of the aforesaid patent(s) or Patent Applications and that is filed at any time, and any patent application, foreign or domestic, filed up to two years from the Effective Date on which Licenser is a named inventor and that relates to Authenticated Encryption.
- 1.7 "Product" shall mean all hardware and software items.

2. LICENSE GRANT

2.1 Licensors grants to Licensee and Subsidiaries of Licensee a worldwide, royalty-free, non-exclusive, non-transferable (except as allowed by Section 5.2), fully paid-up license under the Patents:

- (a) to test, make (including the right to use any apparatus and practice any method in making), use, import, sell, offer to sell, lease or otherwise dispose of any Product that, without the license granted herein, would infringe any claim of Patents;
- (b) to have Product made by another manufacturer for the use, importation, sale, offer for sale, lease, or other disposal by Licensee or Licensee's Subsidiaries, but only if (i) such Products are sold by Licensee, Licensee's sales agent or Licensee's Subsidiaries under the trademarks, trade names or other commercial indicia of Licensee or Licensee's Subsidiaries, and (ii) said Products are made by the other manufacturer using manufacturing drawings and/or specifications (a) originated by Licensee or Licensee's Subsidiaries or (b) originated by any third party specifically for Licensee and/or Licensee's Subsidiaries

Except as inherent in uses permitted by Section 2.1, neither Licensee nor Subsidiaries of Licensee shall have any right to sublicense the rights granted in Paragraph 2.1.

2.2 Licensors grants Licensee a full release for any infringement of the Patents occurring before Effective Date.

2.3 Licensors grants Subsidiaries and Acquired Companies a full release for any infringement of the Patents occurring before such entity was a Subsidiary or an Acquired Company.

2.4 Except as stated in Paragraphs 2.1 and 5.2, neither Licensee nor Subsidiaries of Licensee shall assign or transfer any of its rights granted hereunder without the prior written consent of Licensors, which may not be unreasonably delayed or withheld.

2.5 No right or license is granted hereby under any patent or patent application except as specifically and expressly provided herein.

2.6 If Licensee is required to submit to a government entity information within the possession of the Licensors relating to the Patents for purposes of Licensee obtaining an export license, Licensors will cooperate with Licensee to provide such information.

3. PAYMENT

3.1 Licensee agrees to pay Licensor the sum of fifty thousand dollars (\$50,000) on or before February 21, 2005.

3.2 All payments called for under this Agreement shall be in United States currency, without deductions of taxes of any kind, payable by wire transfer to

Phillip Rogaway
The Golden 1 Credit Union
6507 Fourth Avenue
Sacramento, California 95817 USA
Account # 57204570909
ABA/Routing # 321175261

or to any other account that the Licensor may request in writing, or by a check to Licensor, if the Licensor indicates in writing that this is acceptable.

3.3 Upon payment of the sum referred to in 3.1 the license granted in Section 2 of this Agreement shall become fully paid up and irrevocable.

4. TERM AND TERMINATION

4.1 All licenses, grants, obligations and provisions herein shall continue in full force and effect, unless sooner terminated as hereinafter provided, until the expiration date of the last to expire patent of the Patents.

4.2 If, for any reason, the payment defined in Paragraph 3.1 or this paragraph is not made by the scheduled time, then Licensor shall have the right to terminate this Agreement and/or any and all rights and licenses granted to Licensee and Subsidiaries of Licensee by this Agreement within fifteen (15) days of written notice to Licensee if Licensee fails to correct within five (5) days of such written notice.

5. ASSIGNMENTS

5.1 This Agreement may, at any time, upon written notice and without Licensee's consent, be assigned by Licensor without such assignment operating to terminate, impair, or in any way change any obligations or rights which Licensor would have had, or any of the obligations or rights which Licensee would have had, if such assignment had not occurred. From, and after, the making of any such assignment by Licensor, the assignee shall be substituted for Licensor as a party hereto and Licensor shall no longer be bound hereby.

5.2 Assignment: Licensee may not assign this Agreement or any of its rights or obligations under this Agreement without the prior written consent of Licensor, which will not be unreasonably withheld or delayed; except that:

- (a) Licensee may assign all, but not part, of this Agreement to any subsidiary or affiliate, to its successor in a merger or other similar corporate reorganization in which it is not the surviving entity, or to the purchaser of substantially all of its assets to which this Agreement relates, provided such assignee has total annual revenue less than fifty million dollars (\$50,000,000) and provided such assignee agrees in writing to be bound by this Agreement. From, and after, the making of any such assignment by Licensee, the assignee shall be substituted for Licensee as a party hereto and Licensee shall no longer be bound hereby.
- (b) Licensee may assign all, but not part, of this Agreement to any subsidiary or affiliate, to its successor in a merger or other similar corporate reorganization in which it is not the surviving entity, or to the purchaser of substantially all of its assets to which this Agreement relates, provided Licensee or such assignee pays Licensor one hundred thousand dollars (\$100,000) (or a lesser amount agreed to by Licensor) within thirty (30) days of such assignment and provided assignee agrees in writing to be bound by this Agreement. From, and after, the making of any such assignment by Licensee, the assignee shall be substituted for Licensee as a party hereto and Licensee shall no longer be bound hereby.

(a)

6. REPRESENTATIONS AND WARRANTIES

6.1 Licensor warrants that (a) he does not own any patents or applications for patent, other than the Patents, which are necessary to practice the Authenticated Encryption inventions or the Message Authentication inventions disclosed in the Provisional Patent Applications; (b) he has the entire right, title and interest in and to the Patents and the Provisional Patent Applications; (c) he has the right to enter into this Agreement; and (d) there are no liens, conveyances, mortgages,

assignments, encumbrances or other agreements to which Licensor is a party or by which he is bound, which would prevent or impair the full exercise of all rights granted to Licensee by Licensor pursuant to the terms and conditions of this Agreement.

- 6.2 Licensor makes no representation that any software or hardware that implements any invention disclosed in the Patents or Provisional Patent Applications will be merchantable or fit for any particular purpose. In no event shall either party be liable for any direct, indirect, incidental, special, exemplary, or consequential damages (including, but not limited to, procurement of substitute goods or services; loss of use, data, or profits; or business interruption) related to such software or hardware, however caused and under any theory of liability, whether in contract, strict liability, or tort (including negligence), even if advised of the possibility of such damage.
- 6.3 Each party further represents and warrants that in executing this Agreement, it does not rely on any promises, inducements, or representations made by any party or third party with respect to this Agreement or any other business dealings with any party or third party, now or in the future.
- 6.4 Each party represents and warrants that it is not presently the subject of a voluntary or involuntary petition in bankruptcy or the equivalent thereof, does not presently contemplate filing any such voluntary petition, and does not presently have reason to believe that such an involuntary petition will be filed against it.
- 6.5 Other than the express warranties of this Article, there are no other warranties, express or implied.

7. GENERAL PROVISIONS

- 7.1 Notices. All notices to, demands, consents or communications which any party may desire or may be required to give to the other must be in writing, and if sent within the United States must be sent by registered or certified mail or sent by facsimile transmission, and if sent outside the United States must be delivered prepaid to a reputable international delivery service or courier or sent by facsimile transmission, in either case addressed to such address as shall have been designated by notice from the addressee for addressing of notices to it, or if no such designation shall have been made, then to the address of the party appearing above. Receipt shall be presumed on the date of a confirmed transmission as to facsimile transmission and otherwise on the earlier of actual receipt or on the third day after sending as to notices given within the United States and on the fifth day after sending as to notices given outside the United States. Notice shall be sent to Licensee to: Storage Technologt Corporation, Office of Corporate Counsel, One StorageTek Drive, MS 4309, Louisville, CO

80028 . Notice shall be sent to Licensor to: Phillip W. Rogaway, Ph.D at (530) 752 4767 and +66 53 943433, and via email (rogaway@cs.ucdavis.edu), with copy to Mr. Hoyt A. Fleming, Park, Vaughan and Fleming, LLP at (208) 342-5363.

- 7.2 Waiver. No failure or delay to act upon any default or to exercise any right, power or remedy hereunder will operate as a waiver of any such default, right, power or remedy. A waiver of any default hereunder or of any of the terms and conditions of this Agreement must be in a signed writing and shall not be deemed to be a continuing waiver or a waiver of any other default or of any other term or condition, but shall apply solely to the instance to which such waiver is directed.
- 7.3 Entire Agreement and Amendment. This Agreement constitutes the entire understanding of the parties with respect to its subject matter and supersedes all prior and contemporaneous oral or written negotiations, agreements and understandings. This Agreement may not be modified or amended except in writing duly signed by authorized persons on behalf of the parties hereto.
- 7.4 Severability. If any provision of this Agreement is or becomes or is deemed invalid, illegal or unenforceable under the applicable laws or regulations of the United States, the State of California or any other applicable jurisdiction, such provision will be deemed amended to the extent necessary to conform to applicable laws or regulations or, if it cannot be so amended without materially altering the intention of the parties, it will be stricken, and the remainder of this Agreement will remain in full force and effect.
- 7.5 Governing Law. The validity, construction, interpretation and performance of this Agreement, and any disputes or legal actions arising thereunder or therefrom, shall be governed by the laws and regulations of the United States of America and the State of California, as applied to contracts made and to be performed entirely within the State of California.
- 7.6 Jurisdiction and Venue. In any dispute arising under this Agreement, each party will personally submit itself to the jurisdiction of a court of lawful jurisdiction in the State of California (Northern District of California if Federal Court; Santa Clara County if State Court) if and when sued by the other party in such court; that Licensee will accept, as lawful and sufficient, service of process by certified or registered mail directed to the company President, by title or name, at the regular place of business for the Licensee; and that Licensee will waive any objection it may have to personal or subject matter jurisdiction or venue; that Licensor will accept, as lawful and sufficient, service of process by certified or registered mail directed to him at his principal residence provided a copy of such service of process is sent to Licensor by email (rogaway@cs.ucdavis.edu) and sent by certified or registered mail to Mr. Hoyt A. Fleming, Park Vaughan and Fleming LLP, 4134 W. Quail Ridge Drive, Boise ID 83703; and that Licensor

will waive any objection it may have to personal or subject matter jurisdiction or venue.

- 7.7 Relationship of the Parties. This Agreement does not constitute that either party hereto is an agent of the other party for any purpose whatsoever, nor does either party hereto have the right or authority to assume, create or incur any liability of any kind, express or implied, against or in the name or on behalf of the other party.
- 7.8 Publicity. Licensee may publicly disclose that it is licensed under the Patents. Licensor may publicly disclose that it has licensed Patents to Licensee.
- 7.9 Confidentiality. Subject to Paragraph 7.8, each party agrees not to disclose any terms of the Agreement to any third party (other than its Subsidiaries) without the prior written consent of the other party. This obligation is subject to the following exceptions: (a) disclosure is permissible if required by government or court order, provided the party required to disclose first gives the other prior written notice to enable it to seek a protective order; (b) disclosure is permissible if otherwise required by law; (c) disclosure is permissible if required to enforce rights under this Agreement; (d) each party may use similar terms and conditions in other agreements; (e) each party may disclose this Agreement or its contents to the extent reasonably necessary, on a confidential basis, to potential or actual assignees of the Patents, to third parties desiring a right to sublicense the Patents that is broader than the Sublicense right in Section 2.1, to its accountants, attorneys, financial advisors, its present or future providers of venture capital and/or potential investors in or acquirers of such party; and; and (f) Licensee may advise its actual or potential customers and/or suppliers that it is licensed under Patents and the scope of the license.
- 7.10 Choice of Language. The English language form of this Agreement shall control and determine its interpretation.
- 7.12 Headings. Headings in this Agreement are for the purpose of convenience only, and are not intended to be used in its construction or interpretation.
- 7.13 Counterparts. This Agreement may be executed in any number of counterparts with the same effect as if both parties hereto had signed the same document. All counterparts will be construed together and will constitute one document.

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be executed by their respective duly authorized officers on the date(s) shown below, to be effective as of the Effective Date.

LICENSOR

Date: ~~January~~ ^{February} 3, 2005

By: Phillip Rogaway

Printed Name: Phillip W. Rogaway, Ph.D.

LICENSEE

Date: January 27, 2005

By: James P. Hughes

Printed Name: James P. Hughes

Title: Senior Fellow



PROPRIETARY MATERIAL
In re Application of Phillip W. Rogaway
Application No. 09/918,615
Filed: 30 July 2001
Examiner: Kevin R. Schubert, Art Unit 2137

OCB LICENSE AGREEMENT

This Agreement is made this 31st day of October, 2001, ("Effective Date") by and between Dr. Phillip W. Rogaway, having a principal place of residence at 1212 Purdue Drive, Davis, California, (hereinafter referred to as "Licensor") and Cisco Systems, Inc., having a place of business at 170 West Tasman Drive, San Jose CA, 95134 (hereinafter referred to as "Licensee").

WHEREAS, Licensor has invented certain inventions relating generally to cryptography, and, more specifically, to authenticated encryption and an authenticated-encryption scheme known as "OCB";

WHEREAS, Licensor has filed with the United States Patent Office Provisional Patent Applications as herein identified that disclose such inventions;

WHEREAS, Licensor has filed with the United States Patent Office certain utility patent application(s) as herein identified that disclose such inventions;

WHEREAS, the National Institute of Standards and Technology (NIST) may update encryption modes, and OCB has been proposed to NIST by the Licensor as a new block-cipher mode of operation;

WHEREAS the IEEE 802.11 Working Group for Wireless Local Area Networks is considering the use of OCB within a standard, and other standardization bodies may also standardize on OCB or a mode related to it;

WHEREAS, Licensor has the right to provide a license under certain United States Patent(s) as herein identified;

WHEREAS, Licensor has stated that Licensor will license the United States Patent(s) under fair, reasonable, and non-discriminatory terms and conditions; and

WHEREAS, Licensee desires to obtain, and Licensor is willing to grant Licensee, a non-exclusive license as hereafter defined and under the terms and conditions herein specified.

NOW, THEREFORE, in consideration of the premises and mutual agreements herein contained Licensor and Licensee AGREE AS FOLLOWS:

1. DEFINITIONS

- 1.1 "Subsidiary" shall mean any corporation, company, or other entity of which Licensee now or hereafter owns or controls, directly or indirectly, more than fifty percent (50%) of the outstanding shares of stock entitled to vote for the election of directors. Any corporation, company, or other entity which would at any time

be a Subsidiary of Licensee, by reason of the foregoing shall be considered a Subsidiary only for so long as the percentage of ownership or control, directly or indirectly, by Licensee meets the conditions set forth above.

- 1.2 "Acquired Companies" shall mean any companies acquired by Licensee, which at the time of acquisition are either merged into or become a Subsidiary of Licensee.
- 1.3 "Provisional Patent Applications" means United States Provisional Patent Application Number 60/232,326, entitled "Block Cipher Mode of Operation", and Application Number 60/240,471, entitled "Parallelizable Encryption", and Application Number 60/267,640, entitled "An Authenticated Encryption Scheme".
- 1.4 "Authenticated Encryption" shall mean any cryptographic technique to compute a ciphertext from a message and a key, where said ciphertext is designed to protect both the privacy and the authenticity (also called the integrity) of the message.
- 1.5 "Patents" shall mean any patent that issues from United States Application No. 09/918,615 entitled "Method and Apparatus for Facilitating Efficient Authenticated Encryption," filed on July 30, 2001 and any Patent that claims priority to any or all of the Provisional Patent Applications and claims a method for authenticated encryption, and any utility, divisional, continuation, reexamination, reissue, or foreign counterpart patents that may issue with respect to any of the aforesaid patent(s).
- 1.6 "Product" shall mean a device that includes (a) an IEEE 802.11 compliant wireless transmitter, (b) an IEEE 802.11 compliant wireless receiver, or (c) a semiconductor processor, such as a packet-processor, for installation within an IEEE 802.11 compliant wireless transmitter or an IEEE 802.11 compliant wireless receiver. "Product" shall not include a software toolkit or a software library. "Product" shall not include a computer program unless the computer program is licensed (i) only to end users and (ii) is licensed only for use with (a) an IEEE 802.11 compliant wireless transmitter that was sold by Licensee, (b) an IEEE 802.11 compliant wireless receiver that was sold by Licensee, or (c) a semiconductor processor, such as a packet-processor, that was sold by Licensee, provided the processor is for installation within an IEEE 802.11 compliant wireless transmitter or an IEEE 802.11 compliant wireless receiver that was sold by Licensee. Product shall not include any device that includes: (a) a transmitter that is not compliant with IEEE 802.11; (b) a receiver that is not compliant with IEEE 802.11; or (c) a processor that processes packets that are not compliant with 802.11 if such device implements Authenticated Encryption upon packets of data that are transmitted by the non-compliant transmitter, received by the non-compliant receiver, or processed by the non-compliant processor.

2. LICENSE GRANT

2.1 Licensor grants to Licensee and Subsidiaries of Licensee a worldwide, royalty-free, non-exclusive, personal, non-transferable, except as specified in Section 5.2, fully paid-up license under the Patents:

- (a) to test, make (including the right to use any apparatus and practice any method in making), use, import, sell, offer to sell, lease or otherwise dispose of any Product that, without the license granted herein, would infringe any claim of Patents; and
- (b) to have Product made by another manufacturer for the use, importation, sale, offer for sale, lease, or other disposal by Licensee or Licensee's Subsidiaries, but only if (i) such Products are sold by Licensee or Licensee's Subsidiaries under the trademarks, trade names or other commercial indicia of Licensee or Licensee's Subsidiaries, and (ii) said Products are made by the other manufacturer using manufacturing drawings and/or specifications (a) originated by Licensee or Licensee's Subsidiaries or (b) originated by any third party specifically and exclusively for Licensee and/or Licensee's Subsidiaries.

Except as set forth in Section 2.1 above, neither Licensee nor Subsidiaries of Licensee shall have any right to sublicense the rights granted in Paragraph 2.1.

2.2 Licensor grants Subsidiaries and Acquired Companies a full release for any infringement of the Patents occurring before such entity was a Subsidiary or an Acquired Company.

2.3 Except as stated in Paragraphs 2.1 and 5.2, neither Licensee nor Subsidiaries of Licensee shall assign or transfer any of its rights granted hereunder without the prior written consent of Licensor.

2.4 No right or license is granted hereby under any patent or patent application except as specifically and expressly provided herein.

3. PAYMENT

3.1 The Licensee agrees to pay Licensor, within 30 days of the Effective Date, the sum of forty thousand dollars (\$40,000).

3.2 All payments called for under this Agreement shall be in United States currency, without deductions of taxes of any kind, payable by wire transfer to

Phillip Rogaway
The Golden 1 Credit Union
6507 Fourth Avenue
Sacramento, California 95817 USA
Account # 64376145
ABA/Routing # 321175261

or to any other account that the Licensor may request in writing, or by a check to Licensor, if the Licensor indicates in writing that this is acceptable.

4. TERM AND TERMINATION

4.1 All grants, obligations and provisions herein shall continue in full force and effect, unless sooner terminated as hereinafter provided, until the expiration date of the last to expire patent of the Patents.

4.2 Licensee agrees that should it, during the term of the Agreement, contest the validity of any of the Patents by filing or causing others to file any legal action or any proceeding for reexamination, then Licensor shall have the right to immediately terminate this Agreement and/or any and all rights and licenses granted to Licensee and Subsidiaries of Licensee by this Agreement, to the extent that the exercise of such right to terminate is permitted under the law of the United States.

5. ASSIGNMENTS

5.1 This Agreement may, at any time, upon written notice and without Licensee's consent, be assigned by Licensor without such assignment operating to terminate, impair, or in any way change any obligations or rights which Licensor would have had, or any of the obligations or rights which Licensee would have had, if such assignment had not occurred. From, and after, the making of any such assignment by Licensor, the assignee shall be substituted for Licensor as a party hereto and Licensor shall no longer be bound hereby.

5.2 This Agreement shall inure to the benefit of, and be binding upon, the successors and assigns of all parties, but no purported assignment or transfer by Licensee of this Agreement or any part thereof, (except that Licensee shall have the right to assign this Agreement as an assignment as part of a sale or other conveyance of substantially all of the business or a product line of Licensee), shall have any force or validity whatsoever, except, unless and until approved in writing by Licensor.

6. REPRESENTATIONS AND WARRANTIES

- 6.1 Licensor warrants that (a) he does not own any patents or applications for patent, other than the Patents, which are necessary to practice the authenticated-encryption inventions disclosed in the Provisional Patent Applications; (b) he has the entire right, title and interest in and to the Patents; (c) he has the right to enter into this Agreement; and (d) there are no liens, conveyances, mortgages, assignments, encumbrances or other agreements to which Licensor is a party or by which he is bound, which would prevent or impair the full exercise of all substantive rights granted to Licensee by Licensor pursuant to the terms and conditions of this Agreement.
- 6.2 Licensor makes no representation or warranty that practicing inventions disclosed in the Patents will not infringe, directly, contributorily or by inducement under the laws of the United States of any other country, any patent or other intellectual property right of a third party.
- 6.3 Licensor makes no representation that any software or hardware that implements any invention disclosed in the Patents or Provisional Patents will be merchantable or fit for any particular purpose. In no event shall either party be liable for any direct, indirect, incidental, special, exemplary, or consequential damages (including, but not limited to, procurement of substitute goods or services; loss of use, data, or profits; or business interruption) related to such software or hardware, however caused and under any theory of liability, whether in contract, strict liability, or tort (including negligence), even if advised of the possibility of such damage.
- 6.4 In any dispute arising under this Agreement, Licensee will personally submit itself to the jurisdiction of a court of lawful jurisdiction in the State of California if and when sued by Licensor in such court; that Licensee will accept, as lawful and sufficient, service of process by certified or registered mail directed to the company President, by title or name, at the regular place of business for the Licensee; and that Licensee will waive any objection they may have to personal or subject matter jurisdiction or venue.
- 6.5 Each party further represents and warrants that in executing this Agreement, it does not rely on any promises, inducements, or representations made by any party or third party with respect to this Agreement or any other business dealings with any party or third party, now or in the future.
- 6.6 Each party represents and warrants that it is not presently the subject of a voluntary or involuntary petition in bankruptcy or the equivalent thereof, does not presently contemplate filing any such voluntary petition, and does not presently have reason to believe that such an involuntary petition will be filed against it.

- 6.7 Other than the express warranties of this Article, there are no other warranties, express or implied.

7. GENERAL PROVISIONS

- 7.1 All notices to, demands, consents or communications which any party may desire or may be required to give to the other must be in writing, shall be effective upon receipt in the United States after having been sent by registered or certified mail or sent by facsimile transmission, and shall be effective upon receipt outside the United States after having been delivered prepaid to a reputable international delivery service or courier or sent by facsimile transmission and addressed to such address as shall have been designated by notice from the addressee for addressing of notices to it, or if no such designation shall have been made, then to the address of the party appearing above. Receipt shall be presumed on the date of a confirmed transmission as to facsimile transmission and otherwise within three (3) Days as to notices given within the United States and ten (10) Days as to notices given outside the United States. Notice shall be sent to Licensee to: Cisco Systems, Inc. Attention: Senior Vice President, Legal and Government Affairs, 170 West Tasman Drive, San Jose CA 95134 , Fax No. (408) 526-7019 , with a copy to Robert Barr, Worldwide Patent Counsel, Cisco Systems, Inc., 170 West Tasman Drive, San Jose, CA 95314, Fax No. (408) 527-2882.
- 7.2 No failure or delay to act upon any default or to exercise any right, power or remedy hereunder will operate as a waiver of any such default, right, power or remedy.
- 7.3 This Agreement constitutes the entire understanding of the parties with respect to its subject matter and supersedes all prior and contemporaneous oral or written negotiations, agreements and understandings. This Agreement may not be modified or amended except in writing duly signed by authorized persons on behalf of the parties hereto.
- 7.4 If any provision of this Agreement is or becomes or is deemed invalid, illegal or unenforceable under the applicable laws or regulations of the United States, the State of California or any other applicable jurisdiction, such provision will be deemed amended to the extent necessary to conform to applicable laws or regulations or, if it cannot be so amended without materially altering the intention of the parties, it will be stricken, and the remainder of this Agreement will remain in full force and effect.
- 7.5 The validity, construction, interpretation and performance of this Agreement, and any disputes or legal actions arising thereunder or therefrom, shall be governed by the laws and regulations of the United States of America and the State of

California, as applied to contracts made and to be performed entirely within the State of California.

- 7.6 This Agreement does not constitute that either party hereto is an agent of the other party for any purpose whatsoever, nor does either party hereto have the right or authority to assume, create or incur any liability of any kind, express or implied, against or in the name or on behalf of the other party.
- 7.8 Publicity. Neither party shall, without the prior written consent of the other party, refer to this Agreement or any of its provisions in any statements to the press or public.
- 7.9 Confidentiality. Each party agrees not to disclose the Agreement to any third party (other than its Subsidiaries) without the prior written consent of the other party. This obligation is subject to the following exceptions: (a) disclosure is permissible if required by government or court order, provided the party required to disclose first gives the other prior written notice to enable it to seek a protective order; (b) disclosure is permissible if otherwise required by law; (c) disclosure is permissible if required to enforce rights under this Agreement; (d) each party may use similar terms and conditions in other agreements; (e) each party may disclose this Agreement or its contents to the extent reasonably necessary, on a confidential basis, to potential or actual assignees of the Patents, to third parties desiring a right to sublicense the Patents that is broader than the Sublicense right in Section 2.1, to its accountants, attorneys, financial advisors, its present or future providers of venture capital and/or potential investors in or acquirers of such party; and; and (f) Licensee may advise its actual or potential customers and/or suppliers that it is licensed under Patents and the scope of the license.

7.10 The English language form of this Agreement shall control and determine its interpretation.

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be executed by their respective duly authorized officers as of the Effective Date.

LICENSOR

Date: _____, 2001

By: _____

Printed Name: Dr. Phillip W. Rogaway

LICENSEE

Date: _____, 2001

By: _____

Printed Name: _____

Title: _____